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EXAMINER	
POLTORAK, PIOTR	
ART UNIT	**PAPER NUMBER**
2134	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/818,358	OLSON ET AL.	
	Examiner	Art Unit	
	Peter Poltorak	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16,20,22 and 25-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16,20,22,25,26 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *27 and 28* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment, and remarks therein, received on 7/11/05 have been entered and carefully considered.
2. The Amendment introduces new limitation into claims 1-16, 20, 22, 25-26 and 30 and cancels claim 21.

   The newly introduced limitations have required a new search and consideration of the pending claims. The new search has resulted in newly discovered prior art. New grounds of rejection based on the newly discovered prior art follow below.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Response to Amendment

4. Applicant canceled claim 21 and amended claim language of claims 1, 16, 22 and 26.
5. Applicant's arguments have been carefully considered but they were not found persuasive.
6. Applicant amended claims 5, 6-7 and clarified the limitation of claims 13, 14, 15, 18 and 23, 25.
7. As a result the Objection and all of the Rejections (35 USC § 101, § 112) cited in the previous Office Action are withdrawn.
8. Applicant traverses the Official Notices that were taken in the previous Office Action.
9. In particular applicant requests a reference in support that is well known to "register objects with the class factory and with the data store".

10. This is well known in the art. For example, the examiner points to *Burroughs et al. (U.S. Patent No. 5878411)*, wherein the inventors first disclose fundamentals of Object Oriented Programming. *Burrought et al.* recites:

"A fundamental concept in OOP is the class. A class is a template or prototype that defines a type of object. A programmer may define a class by writing a section of code known as a class definition. An object is an instance of a class. An object is created or instantiated at run-time, i.e., when the computer executes a statement in the program calling for the instantiation of an object of a specified class. An object may include attributes or data as well as functions or methods. The class definition specifies the attributes and methods. The attributes are represented in an object by the values of instance variables" *(Burroughs et al., col. 5 lines 15-25)*.

11. Another example is provided by *Kumar et al. (U.S. Patent No. 6343287)* who's invention involves

"a mechanism, method, and computer program product for linking a profile service instance to a plurality of external data stores. External data store profile that "is created in the profile service that names the connector class. An external data store reference object is created in the profile service instance that identifies the external data store profile and a number of parameters that specify particular data desired from the external data store. A profile within the profile service instance includes an attribute that names the data store reference object. When the attribute is evaluated, the data store reference object is instantiated, optionally using parameters specified

at runtime, and passed as a parameter to an instance of the data store connector class identified by the external data store profile" *(Kumar et al., col. 5 lines 10-32).*

12. In light of the above references it was well known to one of ordinary skill in the art at the time of applicant's invention to register objects with the class factory and with the data store. One of ordinary skill in art at the time of applicant's invention would have employed registering authentication objects with the class factory and with the data store in order for the object to be known and utilized by the system.

13. Also, applicant's request to provide references reading on the fact that it is old and well known to "use applications that do not have to be recoded or recompiled in order to employ the newly registered object" is acknowledged.

14. The examiner points to *Microsoft Press* computer dictionary *(Microsoft Press, "Computer Dictionary, 3rd edition, ISBN: 157231446X, 1997)* that discloses dynamic-link library:

"A feature of the Microsoft Windows family of operating systems and OS/2 that allows executable routines to be stored separately as files with DLL extensions and to be loaded only when needed by a program. A dynamic-link library has several advantages.... Second, because a dynamic-link library is a separate file, a programmer can make corrections or improvements to only that module without affecting the operation of the calling program or any other dynamic-link library" *(Microsoft Press, pg. 166)* and to *the New Rider's "Windows 98 Professional Reference"* reference *(http://cma.zdnet.com/book/win98prfref/ch15/ch15.htm)*, that

discusses the importance of registering dynamic link libraries even in Window 9x environment *(New Rider, "Understanding HKEY_CLASSES_ROOT" section).*

15. In light of the above references it was well known to one of ordinary skill in the art at the time of applicant's invention to use applications that do not have to be recoded or recompiled in order to employ the newly registered object. One of ordinary skill in art at the time of applicant's invention would have written an application so that the application does not have to be recoded or recompiled to employ the newly registered authentication object in order not to slow down the application's execution.

16. It will be appreciated to one of ordinary skill in the art that the *New Rider's* reference is relevant to other Object Oriented Programming concepts that are relevant to applicant's invention *(e.g. What are objects, classes and instances?").*

17. The remaining arguments by applicant are directed towards the newly introduced limitations and they are addressed (using newly discovered prior art) in this Office Action, below.

18. Claims 1-20, 22-26 and 30 have been examined.

Claim Rejections - 35 USC § 112

19. Claims 1-20 and 22-26 are newly rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.

20. The term: "the secondary data" in claims 1, 16, 22, 26 and 30 lacks antecedent basis and is not clear

21. Claims 2-15, 17-20, 23-25 and 30 are rejected by virtue of their dependence

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

22. Claims 1-26 and 30 are newly rejected under 35 U.S.C. 103(a) as being unpatentable over *Hadfield et al. (Lee Hadfield, Dave Hater, Dave Bixler, "Windows NT Server 4 Security Handbook", 1997, ISBN: 078971213)* in view of *Lloyd et al. (U.S. Patent No. 6219790)* and further in view of *Kaeo (Merike Kaeo, "Designing network security", 1999, ISBN: 1578700434).*

23. As per claim 1 *Hadfield et al.* teach components that make up the Windows NT security, and that comprise a Local Security Authority that is the main component responsible for log-on activities *(Hadfield et al., "Windows NT Security System Operation", pg. 79).*

24. *Hadfield et al.* teach that during authentication procedures the authentication data is received by the Local Security Authority that calls an Authentication Package, which supports Net Logon Service and carries out the authentication *(Hadfield et al., pg. 81 and "The Authentication Process", pg. 169).*

25. This reads on "an authentication manager that receives first data associated with the communication and appropriate for a first authentication module".

26. *Hadfield et al.* further teach that the Authentication Package verifies the received authentication data and returns the result to the Local Security Authority.

27. This reads on: "at least one authentication module that receives the at least one secondary data from the authentication manager and produces third data related to responding to the authentication challenge".

28. *Hadfield et al.* do not teach that the authentication manager further processes the first data into second data of a second type appropriate for a second authentication module.

29. However, *Hadfield et al.* teach that the authentication package that is used by custom is written if necessary and *Lloyd et al.* teach support for multiple authentication protocols *(Lloyd et al., Abstract and Fig. 2).* It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide additional modules supporting other authentication schemes into *Handfield et al.'s* invention. One of ordinary skill in the art would have been motivated to perform such a modification in order to authenticate clients using various native authentication protocols.

30. Providing additional authentication modules would allow clients with other than standard Windows NT authentication protocols to communicate with the Local Security Authority which would result in the Local Security Authority (authentication manager) processing the first data into second data of a second type appropriate for a second authentication module.

31. Also, NTLM and Kerberos (for example) are two vastly different protocols and it would have been implicit to have different requirements for secondary data for the first and second authentication modules.

32. *Hadfield et al.* and *Lloyd et al.* teach authentication modules that cooperate with the authentication manager that receives the first data associated with authentication communication as discussed above.

33. *Hadfield et al.* and *Lloyd et al.* do not teach that the first data is associated with the communication challenge.

34. *Kaeo* teaches the challenge response which enhances the authentication process *(Kaeo, "PPP Challenge-Handshake Authentication Protocol, pg. 45-48).*

35. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to enhance the authentication process as taught by *Hadfield et al.* by accommodating the challenge-response as taught by *Kaeo.* One of ordinary skill in the art would have been motivated to perform such a modification in order to provide protection against playback attacks.

36. Accommodating the challenge-response in *Hadfield et al.'s* authentication process would result in the authentication manager receiving the first data associated with the communication challenge.

37. Claims 16 and 30 are substantially equivalent to claim 1; therefore claim 16 and 30 are similarly rejected.

38. As per claim 30 the examiner reminds applicant that the preamble does not carry a patentable weight. However, even if the preamble was limiting, network resources

by a URI is old and well-known in the art *(e.g. Microsoft IIS that is implemented on Microsoft Server, Hadfield et al. pg. 344, etc.)*, especially where Internet connection *(e.g. Lloyd et al., Fig. 1)* is implemented.

39. As per claim 3 the authentication challenge as taught by Kaeo is a multipart authentication challenge.

40. As per claims 4 *Kaeo* teaches deriving hash (third data) from the second data (challenge response, pg.46-47, Fig. 2-11, step 3).

41. As per claims 13-14 *Hadfield et al., Lloyd et al.* and *Kaeo* teach authentication in a distributed computing environment accommodating various authentication protocols, e.g. Kerberos *(e.g. Lloyd et al. Fig. 2)*.

42. Furthermore, *Hadfield et al.* teach a domain that comprises Windows NT and teach that there are more than one Windows NT in a domain environment that provides authentication *(PDC, BDC, Hadfield et al., pg. 93)*.

43. As per claims 2 and 17 *Hadfield et al., Lloyd et al. and Kaeo* do not explicitly teach a cache adapted to store data (e.g. one or more third data related to responding to the authentication challenge).

44. However, the examiner points out that caching data is old and well-known in the art *(Van Hoff, col. 1 lines 52-55, DNS, URL, proxy etc. caching or even utilization of cache memory)*. One of ordinary skill in the art at the time of applicant's invention would have been motivated to utilize cache in *Hadfield et al., Lloyd et al. and Kaeo's* invention for motivation of faster response.

45. Claim 6 essentially refers to a pre-step of a previously discussed method, wherein instead of receiving, processing and responding to data associated with the communication challenge the test is conducted wherein a test data received by the authentication manager triggers "pre-authentication procedures" that are essentially the same as the authentication procedures. Although, none of the above cited references discuss test procedures, conducting tests prior to implementation of a system is old and well-known practice and give the benefit of addressing and avoiding potential problems prior to the system's live implementation.

46. The limitations of claim 7 are implicit. Not only use of services by modules is old and well-known practice *(e.g. any of the Microsoft products)* but also modules are not isolated from the modular computing systems. At the very least modules such as authentication modules would require at least some of the basic executive services as shown in *Fig. 3.4 (Hadfield et al., pg. 76).*

47. As per claims 8, 15 it is implicit that some of the clients use the authentication challenge as taught by *Hadfield et al., Lloyd et al. and Kaeo* are Windows 98, NT 2000 (etc.). Windows Operating Systems products are written in object oriented programming language and inherently have a class factory *(Dynamic Link Libraries: DLL)* and objects.

48. *Hadfield et al., Lloyd et al. and Kaeo* do not explicitly teach authentication objects callable by the authentication manager and configuration table.
However, authentication objects callable by the authentication manager as well as configuration table is well known in art as illustrated by *Itoi et al. (Itoi et al., section 2*

and 4, Fig. 4.2). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement authentication objects callable by the authentication manager into *Kessler's* invention. One of ordinary skill in the art would have been motivated to perform such a modification in order to provide a more efficient programmable environment.

49. As per claims 19 and 24 *Itoi et al.* show several created authentication modules *(Fig. 4.2).* Registering one or more authentication modules after the receipt of one or more authentication challenges would be implicit since in order to register the appropriate authentication module the authentication protocol used must be known.

50. *Hadfield et al., Lloyd et al. and Kaeo* do not explicitly teach a registrar adapted to register an authentication object with the class factory and with the data store. Official Notice is taken that it is old and well-known practice to registrar adapted to register an authentication object with the class factory and with the data store *(see Burroughs et al. and Kumar et al., Response to Amendment, above).* One of ordinary skill in the art at the time of applicant's invention would have employed registering authentication objects with the class factory and with the data store in *Hadfield et al., Lloyd et al. and Kaeo's* invention in order for the object to be known and utilized by the system.

51. *Hadfield et al., Lloyd et al. and Kaeo* also do not explicitly teach that the application does not have to be recoded or recompiled to employ the newly registered authentication object.

Official Notice is taken that it is old and well-known that applications do not have to be recoded or recompiled in order to employ the newly registered object *(see Microsoft Press and New Rider, Response to Amendment, above)*. One of ordinary skill in art at the time of applicant's invention would write an application so that the application does not have to be recoded or recompiled to employ the newly registered authentication object in order not to slow down the application's execution.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571)272-

3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Signature

9/30/05

Date

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